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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/881,850 | 06/18/2001 | Takuya Makino | SON-2128 | 8381 |

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EXAMINER

WU, XIAO MIN

ART UNIT PAPER NUMBER

2674

DATE MAILED: 07/01/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/881,850

Applicant(s)

MAKINO, TAKUYA

Examiner

XIAO M. WU

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,5-9,11-14 and 16-25 is/are rejected.
- 7) ☒ Claim(s) 2-4,10 and 15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 5-9, 11-14 and 16-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Yonekubo (Pub. No. US 2002/001431).

As to claims 1, 23-25, Yonekubo discloses an optical switching element comprising: a total reflection member (32, Fig. 3) having a total reflection face by which incident light can be totally reflected; and a plurality of translucent light extracting portions (35, 43, 45, Fig. 3) constructing one pixel, each of which can be switched between a first position at which the light extracting portion comes into contact with or is close to the total reflection face of the total reflection member in a distance in which near field light can be extracted (e.g. the right pixel shown in Fig. 3 is in a first position) and a second position apart from the total reflection face more than the distance in which the near field light can be extracted (e.g. the left pixel shown in Fig. 3 is in a second position).

As to claims 5, Yonekubo discloses driving means for displacing the light extraction portion to either the first position or the second position in accordance with the leading direction of the incident light (col. 7, lines 9-33).

As to claim 6, Yonekubo discloses when the light extracting portion is in the second position, reflection from the total reflection face (32) of the total reflection member is used (see Fig. 3).

As to claim 7, Yonekubo discloses that when the light extracting portion is in the first position, light passed through the total reflection member (32) and the light extracting portion (35, 43, 45) is used.

As to claim 8, Yonekubo discloses that the optical switching element is used as two-way light polarizing element using both total reflection light from the total reflection member and transmission light passed through the light extracting portions (see Fig. 3).

As to claim 9, Yonekubo discloses that the total reflection member (31, 32) is a translucent substrate having a pair of parallel faces one of which is light incident face and the other serving as either a total reflection face when the light extracting portion is in the second position or a light emitting face when the light extracting portion is in the first position (Fig. 3).

As to claims 11, 12, Yonekubo discloses a microprism or microcylindrical lens ((e.g. elements 44, 43, Fig. 6) serving as an introducing portion of incident light and an emitting portion of reflection light from the total reflection face is disposed on the light incident face side of the translucent substrate.

As to claim 13, Yonekubo discloses the light extracting portion is a plate-shape (35) translucent substrate having a bridge structure (27, Fig. 3).

As to claim 14, Yonekubo discloses on a face on the side opposite to the total reflection member side of the light extracting portion, a total reflection preventing portion for preventing total reflection by the light extracting portion of incident light passed through the total reflection

Art Unit: 2674

member when the light extracting portion is in the first position is provided (e.g. as shown in the Fig. 3, the left pixel is in a total reflection position for preventing the light passed through the total reflection member (32).

As to claims 16, 17, 21, Yonekubo discloses that the total reflection light absorbing layer for absorbing incident light (e.g. when the pixel is in first position, the incident is absorbed as shown in Fig. 3).

As to claim 18, Yonekubo discloses deflecting incident light into the translucent substrate (21) when the pixel is in a total reflection position.

As to claim 19, Yonekubo discloses a pair of transparent electrode (27, 31).

As to claim 20, Yonekubo discloses a translucent substrate (21) in a position opposite to the translucent substrate of light extracting portion (27) so as to face the total reflection member, on which light emitting from the light extracting portion is incident.

As to claim 22, Yonekubo discloses three transparent electrodes (31, 35, 27, Fig. 3).

Allowable Subject Matter

3. Claims 2-4, 10 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The US Patents 5,579,149, 5,600,383, 5,696,619, 6,608,621, 6,549,694, 6,611,377 and 6,642,913 are cited to teach an optical display device.

Art Unit: 2674

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiao Wu whose telephone number is (703) 305-4721.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231


or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377

xw
June 26, 2004


XIAO WU
PRIMARY EXAMINER
ART UNIT 2674